

**Minutes of the 24<sup>th</sup> WLTP IWG Meeting**

	Date and Time	Location
IWG	18 <sup>th</sup> ~ 20 <sup>th</sup> September 9:30 ~ 17:30 21 <sup>st</sup> September 9:30 ~ 12:30	TKP Ichigaya Conference Center*
the following meetings will be held in conjunction with IWG meeting		
Low Temp TF Drafting	17 <sup>th</sup> September 14:30 ~ 17:30	Honda Yaesu Building *
Transposition TF	21 <sup>st</sup> September 14:30 ~ 17:30	JASIC Tokyo Office *

\*) please refer WLTP-24-02e\_Appendix\_01&02 for more detail

Documents: <https://wiki.unece.org/display/trans/WLTP+24th+session>

**< > indicates the purpose of each agenda**

**IS** : Information Sharing, **D** : Discussion, **RC** : Reach Consensus

**\*\*\*\*\* Day\_1 (18<sup>th</sup> September) \*\*\*\*\***

1. **Welcome & Organization <IS>** (9:30-9:45)
  - R. Cuelenaere (Chair, TNO) welcomed the group. He mentioned that former WLTP chair S. Redmann (BMVI, Germany) joined this meeting. Also, he introduced a new leader of delegation from Japan, S. Miyazaki (MLIT, Japan). B. Coleman (VW Group) announced on behalf of OICA, a new Co-Technical Secretary of WLTP IWG from OICA, A. Lindt (SMMT) from British association of the motor industry. She will be joining as of the 25<sup>th</sup> WLTP IWG in January 2019.
  - R. Cuelenaere (Chair, TNO) expressed gratitude to Japan for hosting the meeting at Tokyo and to Y. Toba (JASIC, Japan) for arranging the meeting room.
  - The meeting was led by R. Cuelenaere (Chair, TNO), D. Kawano (Co-Chair, NTSEL, Japan), and N. Ichikawa (TS, Japan).
  
2. **Adoption of Minutes & Agenda <IS>** (9:45-10:00)
  - ◇ Minutes of 23<sup>rd</sup> WLTP IWG meeting (WLTP-23-07e) were **adopted**. R. Cuelenaere (Chair, TNO) thanked M. Morimoto (Japan) and the Japanese delegation for making the minutes. He announced minutes of the 24<sup>th</sup> WLTP IWG meeting will also be taken by Japan.
  - ◇ Proposed Agenda (WLTP-24-02e) was **adopted**. However, R. Cuelenaere (Chair, TNO) announced that some of reports of subgroups might be shifted to Day 3, 20<sup>th</sup> September. He thanked N. Ichikawa (TS, Japan) for making the agenda.
  
3. **GTR#19 (Evaporative Test) Amd2 <RC>** (10:00-11:30)
 

[Conclusions]

  - **WLTP IWG agreed to send GTR 19 Amendment 2 to the 78<sup>th</sup> GRPE on January 2019.**
  - Before submitting the working document, EVAP TF will have a GTR 19 Amendment 2 (WLTP-24-05e-Appendix01) drafting meeting on 25<sup>th</sup> September.
  - EVAP TF will be closed. It will be re-opened when a new topic comes out and will be led by CP requesting to discuss a new topic.

- ✧ Summary of Amendment by **M.Morimoto** (WLTP-24-05e\_GTR19\_Amd2)
  - M. Morimoto (Japan), EVAP TF leader, explained WLTP-24-05e. She reported that TF discussed 4 topics: the alternative equation for the variable-volume enclosure, the installation of aged carbon canister to the vehicle, the calibration requirements of test equipment, and the clarification of vehicles considered in the same EVAP family.
  - Regarding the test equipment requirements, K. Engeljehringer (AVL) asked why GTR19 makes reference to the calibration in UNR83 and not to that in GTR15.. M. Morimoto (Japan) answered that it was already discussed during TF meeting. Since some equipment does not require accurate equipment as GTR 15, TF decided to keep the reference to UNR 83 for some equipment.
  - Regarding the EVAP family, H. A. Nakhawa (ARAI, India) asked to include the text that the manufacturer should demonstrate technical equivalency if the materials of vapour hoses and the materials of fuel line are different. This will be included during drafting meeting.
- ✧ Proposed text amendment (WLTP-24-05e\_Appendix01\_GTR19\_Amd2text)
  - R. Cuelenaere (Chair, TNO) asked WLTP IWG if it agreed to submitting GTR 19 Amendment 2 to 78<sup>th</sup> GRPE on January. No objection was raised and it was agreed. He also clarified that EVAP TF will be closed until a new topic arises. At that time, TF will be led by CP requesting to discuss a new topic.

<10:35 – 10:55 Coffee Break>

#### 4. **GTR#15 (Type I test) Amd5\_Part1 <RC>** (11:00-17:30)

- ✧ Summary of Amendment 5 (WLTP-24-06e\_GTR 15\_Amd5) (11:00-11:05)
  - N. Ichikawa (TS, Japan) explained WLTP-24-06e. It is the list of items to be discussed to include in GTR 15 Amendment 5.
- ✧ Proposed text amendment
  - ✓ Gear Shift (WLTP-24-06e\_Appendix01\_Gear shift) (11:05-12:05)

[Conclusions]

  - **WLTP IWG agreed to include changes related to gear shift in GTR 15 Amendment 5.**
  - The final gear shift tool is uploaded on the UNECE website.  
<https://wiki.unece.org/display/trans/Gearshift+calculation+tool>
  - Gear Shift TF will be closed.

[Discussions]

  - H. Steven (Consultant) explained WLTP-24-06e\_Appendix01. It is the proposals of text changes after the 2<sup>nd</sup> round-robin test to clarify the interpretation of text. Those have already been agreed by the TF members

and reflected in the final gear shift tool uploaded to UNECE website.  
(WLTP\_GS\_calculation\_23082018.accdb).

- C. Lueginger (BMW) asked when these changes in gear shift are introduced to each CPs.
    - A. Marotta (EC) answered in EU, it depends on EU-WLTP 3<sup>rd</sup> Act in the future. He mentioned other changes are also in the same situation. However, he said that WLTP-24-06e\_Appendix01 can be used as the guidelines.
    - H. Torii (NTSEL, Japan) answered that Japan has already adopted the final version of the tool. However, Japan is flexible to use either the final version or the other versions.
  - H. A. Nakhawa (ARAI, India) asked whether examples could be provided to help technical services verify the systems. H. Steven (Consultant) said examples of some of the most critical vehicles from the round-robin will be included in the technical report to GTR 15 Amendment 5.
  - R. Cuelenaere (Chair, TNO) clarified that Gear Shift TF will be closed.
- ✓ Drive Trace indices (WLTP-24-06e\_Appendix02\_Trace indices) (12:05-13:05)

[Conclusions]

- PEV shortened test: **WLTP IWG agreed** that the constant speed segments be excluded from the DTI calculation. The evaluation of the drive trace indices will be done only for dynamic segments 1 and 2. **This will be reflected in GTR 15 Amendment 5.**
- PEV consecutive cycle test and OVC-HEV CD test: **WLTP IWG agreed** to calculate drive trace indices cycle-by-cycle and the criteria is different according to the number of CD cycles. If CD cycles are less than 4 cycles, all cycles should comply with the criteria individually. If equal to or more than 4 cycles, the combination of every possible two cycles should comply with criteria. **This will be reflected in GTR 15 Amendment 5.**
- Usage of OBD port during type approval test: **WLTP IWG agreed** to use it for the detection of WOT (wide open throttle). **This will be reflected in GTR 15 Amendment 5.**
- PEV city cycle test: Still under discussion within TF and Subgroup EV. **WLTP IWG agreed that after agreement in those meetings, it can be reflected in GTR 15 Amendment 5.**

[Discussions]

- T. Haniu (Japan) explained WLTP-24-06e\_Appendix02 on the status of TF.
- H. A. Nakhawa (ARAI, India) requested the consideration and data of Class 1 vehicles regarding the drive trace indices for the electrified vehicles. Since all electrified vehicles are classified as Class 3 until the system power determination method is clarified in GTR, it will be discussed after that.

- Regarding PEV consecutive cycle test and OVC-HEV CD test, the proposal originally came from European Commission. S. Miyazaki (MLIT, Japan) said Japan already agreed with this proposal. There were no objections and WLTP IWG agreed to reflect it in GTR 15 Amendment 5.
- Concerning PEV city cycle test, M. Nägeli (TS of Subgroup EV, VW Group) mentioned that Subgroup EV needs more time to confirm whether the limit can also be applied to city cycle test. He also proposed to calculate 2 city test cycles as one cycle. He will prepare the text proposal by the end of 24<sup>th</sup> WLTP IWG.  
(Note) At the discussion on 21<sup>st</sup> September, M. Nägeli (TS of Subgroup EV, VW Group) presented the document with the square brackets. WLTP IWG agreed that that after agreement in those meetings, it can be reflected in GTR 15 Amendment 5.
- Regarding RMSSE, R. Cuelenaere (Chair, TNO) asked if a discussion to harmonise 0.80 and 1.30 is needed. A. Marotta (EC) mentioned that it should be postponed at least until transposition to UNR. If UNR results in changes to RMSSE then the GTR would need to be updated. The discussion of drive trace indices was concluded.
- After lunch break, B. Coleman (VW Group) requested CPs and TAs to provide data of drive trace indices from type approvals. R. Cuelenaere (Chair, TNO) answered that if such data is received, RMSSE discussion will be back on the agenda.

<13:05 – 14:30 Lunch Break>

- ✓ Coastdown Method including definitions  
(WLTP-24-06e\_Appendix03\_Coastdown) (14:30-17:50)

[Conclusions]

- **WLTP IWG agreed to discuss the definitions of coastdown method in a separate small group.**
- The expansion of “delta 5°C requirement”, written in Paragraph 4.1.1.2. Annex 4, which requires the different calculation method to apply for the coastdown test results when the difference between highest and lowest test temperature is bigger than 5°C, was withdrawn by Japan.
- WLTP IWG agreed to continue discussion to write clear text for following topics:
  - Paragraph 4.4., a break for the driver during coastdown testing
  - Paragraph 4.3.1.3.4., data to be used for overlap, WLTP IWG agreed to have as same method. How to proceed will be discussed. Also, decision on using speed coverage less than 10km/h as an overlapped point is postponed by EC.
- WLTP IWG agreed to change all topics in Annex 4 as follows:

- Paragraph 4.1.1.: clarification of the atmospheric data to be used for coastdown calculation;
- Paragraph 4.1.1.1.: delete unnecessary requirement to choose anemometer and clarification of wind conditions which allows waive correction;
- Paragraph 4.1.1.1.1. and Paragraph 4.1.1.1.2.: clarification of wind condition;
- Paragraph 4.2.1.: clarification of vehicle condition for coastdown;
- Paragraph 4.3.1.4.3.: improvement to data rejection criteria.

## [Discussion]

- Definitions of Coastdown
  - S. Dubuc (Consultant) explained WLTP-24-06e\_Appendix03a. It is proposed text for definitions of coastdown related terms.
  - B. Coleman (VW Group), C. Lueginger (BMW), Martin Zirn (Mercedes-Benz) made comments on wordings and also the need of a definition of "coastdown."
  - M. Morimoto (Japan) asked a question the reason that definition of S. Dubuc (Consultant) became so complicated from the one before. A. Marotta (EC) answered that EC wanted to replace the definition with more logical explanation.
  - Since Japan asked to give them more time to consider the new definitions, R. Cuelenaere (Chair, TNO) proposed to have a separate small group on definitions to discuss beside WLTP IWG in Tokyo.
- Coastdown test method text updates
  - N. Ichikawa (TS, Japan) explained WLTP-24-06e\_Appendix03b. The document is on the text updates of Annex 4 related to coastdown test method.
  - For Paragraph 4.1.1.1., the wind condition for the stationary anemometer, I. Riemersma (Consultant) proposed to add more clarification to the text on averaging. He also proposed to change the current requirements on the location of the stationary anemometer. R. Cuelenaere (Chair, TNO) asked him to bring up the text proposals.
  - For Paragraph 4.1.1.1.2., A. Marotta (EC) asked to clarify the wording in the text, whether all conditions listed should be met or some of them. Since the listed conditions were in double negative sentence, R. Cuelenaere (Chair, TNO) asked N. Ichikawa (TS, Japan) and S. Dubuc (Consultant) to check the wording.
  - For Paragraph 4.1.1.2., A. Marotta (EC) requested clarification of proposal by Japan. N. Ichikawa (TS, Japan) explained the proposal using a whiteboard. Since European Commission did not agree with the proposal by Japan, Japan withdrew the proposal. This topic is deleted from the discussion point.

- For Paragraph 4.3. the break for the driver, New Issues TF members agreed with this proposal to add the text on it. However, N. A. Nakhawa (ARAI, India) concerned the temperature drop of transmissions. N. Ichikawa (TS, Japan) answered the warm-up will solve that concern. B. Coleman (VW Group) pointed out that the need of warm-up depends on the length of breaks. Therefore, C. Astroga-Llorens (JRC) proposed to strike out the text. The problem was, without text, there might be TAA which would not allow a break. Therefore, R. Cuelenaere (Chair, TNO) proposed to keep open the discussion to clarify text and IWG agreed.

<16:35 – 16:50 Coffee Break>

- For Paragraph 4.3.1.3.4. data to be used for overlap, N. Ichikawa (TS, Japan) explained that there are 2 possible procedures and their pros and cons. He also proposed to change the speed points to be overlapped to be changed to less than 10km/h. A. Marotta (EC) requested time to discuss those items with C. Vallaude (UTAC).
- For Paragraph 4.3.1.4.3. data rejection criteria, N. Ichikawa (TS, Japan) explained the current problem and an improvement proposal which was agreed by TF members. A. Marotta (EC) agreed as long as cherry picking does not occur. However, the text proposed might cause misunderstanding and he requested to add more clarification to the text. H. A. Nakhawa (ARAI, India) asked whether a maximum number of runs should be specified. N. Ichikawa (TS, Japan) proposed to use the limit number to 30, from Table A4/4. No objection was made.

\*\*\*\*\* Day\_2 (19<sup>th</sup> September) \*\*\*\*\*

## 5. GTR#15 Amd5\_Part2 <RC> (9:30-17:50)

✧ Proposed text amendment

- ✓ Wind Tunnel Method (WLTP-24-06e\_Appendix04\_Wind tunnel) (9:35-10:00)

[Conclusion]

- **WLTP IWG agreed to add both calculation methods** proposed by Japan as basic method and by BMW as an option when the difference of 2 measured  $C_D \times A$  results are less than  $0.015\text{m}^2$ .

[Discussion]

- M. Morimoto (Japan) explained WLTP-24-06e\_Appendix04\_Wind tunnel. She mentioned the calculation method when the difference of  $C_D \times A$  results are less than  $0.015\text{m}^2$  is under discussion and close to agreement. C. Lueglinger (BMW) mentioned this is only a drafting problem.
- During Day 5 drafting, M. Morimoto (Japan) announced that Japan agreed to add the calculation proposed by BMW when the difference of  $C_D \times A$  results are less than  $0.015\text{m}^2$  as an option.

- ✓ Vehicle\_M Concept (WLTP-24-06e\_Appendix05\_V\_M) (10:30~11:35)

[Conclusion]

- **WLTP IWG agreed to add the Vehicle M concept used for hybrids to also extend the range of interpolation family for ICE vehicles.** For both ICE and hybrid, the tolerance for Vehicle M linearity check is revised to +2g/km or +3%, whichever is smaller but larger than +1g/km.
- **WLTP IWG agreed to make text clear for 3 g/km extrapolation.** The texts between ICE vehicles and hybrid vehicles will be aligned.

[Discussion]

- C. Lueglinger (BMW) explained WLTP-24-06e\_Appendix05a, which is about the concept of Vehicle M and linearity check criterion.
- R. Cuelenaere (Chair, TNO) mentioned that Japan has already accepted the concept to apply it to ICE vehicles. A. Marotta (EC) said EC accepts the concept in the case that the linearity criterion has been changed for ICE vehicles. However, N. Ichikawa (Japan) mentioned it is difficult to explain different criteria between ICE vehicles and hybrid vehicles.

<10:45 – 11:05 Coffee Break>

- C. Lueglinger (BMW) proposed to have a compromised tolerance to have maximum and minimum criteria and a linear criterion in between. After the discussions in the meeting and also in the coffee break, his proposal was accepted by both EC and Japan. The new linearity criteria for Vehicle M, maximum 2 g/km or 3 % of Vehicle M whichever is less but not less than 1 g/km, will be applied to both ICE vehicles and hybrid vehicles.
- N. Ichikawa (Japan) explained WLTP-24-06e\_Appendix05b to make texts align for both ICE vehicles and hybrid vehicles for extrapolation of 3 g/km to both sides of interpolation family. He was asked to make the clear text proposal. He did it after the meeting and the texts were agreed upon.

- ✓ R/L Matrix and Default R/L (wind tunnel, definition, range restriction) (WLTP-24-06e\_Appendix06\_Default&Matrix RL) (11:35-12:05)

[Conclusion]

- **WLTP IWG requested clearer text for change in the definitions of R/L matrix family.**
- **WLTP IWG agreed to apply the wind tunnel method to R/L matrix family and apply exemption on restriction of interpolation family range for default road load.**

[Discussion]

- S. Malfettani (Renault) explained WLTP-24-06e\_Appendix06, which is on changes of R/L matrix family definitions and the use of wind tunnel method to it.

- For R/L matrix family definitions, A. Marotta (EC) and C. Vallaude (UTAC) requested more clarification on the text for definitions. Also, A. Dijkhuizen (RDW) expressed concern on non-intended loophole. B. Coleman (VW Group) will propose another text.
  - For applying wind tunnel method to R/L matrix family, no one objected.
  - For exemption on restriction of interpolation family range for default road load, basically agreed but A. Marotta (EC) made comment that he will check the impact of the proposal. Later on, it was also agreed.
- ✓ Alternative Procedure of Interpolation Methods (R/L curve error and phase value) (WLTP-24-06e\_Appendix07\_alternative IPM) (12:05-12:30)

[Conclusion]

- **WLTP IWG agreed to add an Alternative interpolation calculation method** to Paragraph 3.2.5. Annex 7 of GTR 15. (The text was agreed by e-mail exchange.)

[Discussion]

- N. Ichikawa (TS, Japan) explained WLTP-24-06e\_Appendix07, which is on an alternative calculation method when an error happens during interpolation calculations.
- C. Lueglinger (BMW) and A. Marotta (EC) supported the concept. R. Cuelenaere (Chair, TNO) requested to revise the text.
- Proposal by Renault (phase value can be calculated based on the ratio of difference between V\_H and V\_L, not cycle energy demand) was also accepted by WLTP IWG.

- ✓ Response Factor (WLTP-24-06e\_Appendix09\_Response Factor) (12:30-13:00)

[Conclusion]

- **WLTP IWG agreed to revise the text regarding response factors.**

[Discussion]

- M. Morimoto (Japan) explained WLTP-24-06e\_Appendix09, which is on the revision of text regarding response factors. This text also included the comments from AVL and HORIBA on bringing back the range for Methane response factor, and widen the ranges for Propylene and Toluene response factor.
- H. A. Nakhawa (ARAI, India) requested to reflect in technical report why the ranges Propylene and Toluene response factor were changed. He also had a question why the calibration shall be done by 370 days.

<13:00 – 14:25 Lunch>

- ✓ Span Gas Accuracy (WLTP-24-06e\_Appendix08a,b\_Span Gas) (14:15-15:15)

[Conclusion]

- WLTP IWG requested to discuss this in a small group.
- After the small group discussion, **Japan withdrew their proposal.**

[Discussion]

- M. Morimoto (Japan) explained WLTP-24-06e\_Appendix08a, a proposal of adding a footnote for the exception for gas tolerance when those cannot be purchased in CP. For some gases with low concentration, Japan was unable to get the government certification which is required in GTR 15.
- M. Vasarhelyi (Air Liquide) said Air Liquide sells the lower concentration gases fulfilling the GTR 15 criteria in Japan. H. A. Nakhawa (ARAI, India) asked if Japan has trouble importing those gases. M. Morimoto (Japan) replied that Japanese gas manufacturers have the ability to produce those gases. However, the standard in Japan cannot certify those gases. However, K. Engeljehring (AVL) mentioned that if the tolerance is changed between CP, it is difficult to maintain the accuracy of the equipment. R. Cuelenaere (Chair, TNO) requested to modify the text in a small group.
- C. Astorga-Llorens (JRC) organised a small meeting. During the discussion, Japan withdrew the proposal.

- ✓ Description and Interpretation of 3g/km extension (WLTP-24-06e\_Appendix10a,b\_3g/km extension) (15:15-15:25)

[Conclusion]

- **WLTP IWG confirmed the interpretation. It will be reflected in the text** for clarification.

[Discussion]

- M. Morimoto (Japan) explained WLTP-24-06e\_Appendix10a, a proposal to improve the text for extension to avoid misinterpretation. The current text can be interpreted that only one side of interpolation family can extrapolate.
- WLTP IWG confirmed the extrapolation can be done to both sides of interpolation, if it is within the absolute boundaries of the interpolation range written in paragraph 2.3.2.2. of Annex 6.

- ✓ Full Load Curve (WLTP-24-06e\_Appendix15\_Full load curve) (15:25-15:50)

[Conclusion]

- **WLTP IWG agreed to keep this topic open** under WLTP IWG, but not aim to solve by Amendment 5 issuance.

[Discussion]

- C. Lueglinger (BMW) explained WLTP-24-06e\_Appendix15, a proposal to include vehicles with a different full load curve but the same gearshift in same interpolation family.

- A. Marotta (EC) said this will not aim to be solved by Amendment 5. N. Ichikawa (TS, Japan) said he is concerned that this proposal will apply only for manual transmissions, not automatic transmissions.
- WLTP IWG agreed to keep this point open for more technical discussion.

<15:50 – 16:15 Coffee Break>

- ✓ REESS Voltage Measurement (WLTP-24-06e\_Appendix11\_REESS voltage) (16:15-16:45)

[Conclusion]

- **WLTP IWG agreed to add text to GTR 15 to provide clarification on using fixed voltage.**
- The texts were fixed by e-mail exchange and agreed.

[Discussion]

- M. Nägeli (TS of Subgroup EV, VW Group) explained WLTP-24-07e\_SG EV, the status of Subgroup EV and requested agreement on defining "fixed voltage". In addition to this, N. Ichikawa (TS, Japan) explained WLTP-24-06e\_Appendix11a, the problems which might occur without the definition of fixed voltage.
- A. Marotta (EC) supported making definition of fixed voltage.

- ✓ Definition of REESS Charge (WLTP-24-06e\_Appendix12\_REESS charge) (16:45-17:05)

[Conclusion]

- **WLTP IWG agreed to add text on how REESS charge should be done.**
- The texts were fixed during coffee break discussion between ACEA and Japan.

[Discussion]

- M. Nägeli (TS of Subgroup EV, VW Group) explained WLTP-24-07e\_SG EV and WLTP-24-06e\_Appendix12\_REESS charge. It is on use of low voltage charger.
- WLTP IWG members asked for revisions of the text. R. Cuelenaere (Chair, TNO) asked M. Nägeli (TS of Subgroup EV, VW Group) to modify the text with members from Japan.

- ✓ FCHV fuel analysis and others (WLTP-24-06e\_Appendix13\_FCHV) (17:05-17:25)

[Conclusion]

- **WLTP IWG agreed to revise texts related to the analysis of hydrogen for fuel cell vehicles in Annex 3, correction of hydrogen line in Annex 8 Appendix 7.**

## [Discussion]

- N. Ichikawa (TS, Japan) explained WLTP-24-06e\_Appendix13a on concerns which Japan had on issues related to FCHV, analysis of hydrogen for fuel cell vehicles, correction of hydrogen line, and the addition of hydrogen fuel consumption unit. These issues were basically agreed in Subgroup EV.
  - For analysis of hydrogen fuel, N. Klein (Hyundai) preferred adding ISO to it. Since related ISO 19880-8:2017 is still under discussion, IWG decided not to use ISO in the text.
- ✓ Significant number (WLTP-24-06e\_Appendix14\_Number) (17:15-17:25)

## [Conclusion]

- **WLTP IWG agreed to improve the text to clarify when the values are rounded during calculation, as proposed.**

## [Discussion]

- M. Nägeli (TS of Subgroup EV, VW Group) explained WLTP-24-06e\_Appendix14\_Number, to add when to round the value during calculation.
  - Japan and European Commission showed support to the document.
- ✓ Adjustment factor for fuel consumption (AF\_FC) (WLTP-24-06e\_Appendix14) (17:25~17:45)

## [Conclusions]

- **No decision was made by WLTP IWG.**
- **This will not be included in Amendment 5 but for UNR WLTP.**

## [Discussions]

- N. Ichikawa (TS, Japan) explained WLTP-24-06e\_Appendix14a, a proposal to revise the calculation method for phase-specific values of fuel consumption.
- ✓ AOB: Adding number of wheels per axis in family definition (17:45-17:50)

## [Conclusions]

- **European Commission withdrew a proposal.**

## [Discussions]

- A. Marotta (EC) expressed concern on commercial vehicles which have 4 wheels on 1 axis. He proposed to add “Number of wheels per axle” as a new sub-point (f) for paragraph 5.6.1.2.
- R. Cuelenaere (Chair, TNO) asked to bring the text proposal to IWG.
- The discussion was done during coffee break between European Commission, UTAC, and ACEA. During the discussion, European Commission withdrew a proposal.

\*\*\*\*\* DAY\_3 (20<sup>th</sup> September) \*\*\*\*\*

## 6. Subgroup and Taskforce Report\_Part1 <IS & D> (9:40-17:30)

- ◇ SG EV by Matthias (WLTP-24-07e\_SG EV) (9:45~10:10)
  - M. Nägeli (TS of Subgroup EV, VW Group) explained WLTP-24-07e\_SG EV, a status report of subgroup EV.
  - N. Ichikawa (TS, Japan) mentioned that a separate GTR for hybrid system power has not been decided yet. S. Miyazaki (MLIT, Japan) also mentioned that Japan is still under discussion whether it should be a separate GTR.
  - M. Morimoto (Japan) asked M. Nägeli (TS of Subgroup EV, VW Group) regarding his plan to start discussion on durability of batteries, which is referred to in his presentation. M. Nägeli (TS of Subgroup EV, VW Group) replied he has no plan. N. Klein (Hyundai) proposed to have decision by GRPE if we need more research or not.
  - H. A. Nakhawa (ARAI, India) requested to consider Class 1 electrified vehicle, after the system power determination for hybrid vehicles is determined.
  - M. Nägeli (TS of Subgroup EV, VW Group) requested an half-day meeting during January 2019 GRPE week.
  
- ◇ Low Temperature by C. Astorga (WLTP-24-08e\_Low temp) 10:00~11:00
  - G. D'Urbano (FOEN, Switzerland) provided an introduction to the work of the Low temperature Task Force. S. Redmann (BMVI, Germany), P. Öhlund (Sweden), A. Marotta (EC), S. Miyazaki (MLIT, Japan) clarified that they support the work of Low Temp TF.
  - H. A. Nakhawa (ARAI, India) clarified India support the work under WLTP IWG. He mentioned that India is waiting for the discussion on High Temp but it is not urgent.
  - C. Astorga-Llorens (JRC) explained WLTP-24-08e\_Low temp, the status of Low Temp TF and drafting of GTR text.
  - B. Coleman (VW Group) mentioned that in discussion on auxiliary device for Low Temp, there is a big challenge to define what is "ON" for those devices. C. Astorga-Llorens (JRC) replied that this will be discussed at 3<sup>rd</sup> part of discussion.

<11:00 – 11:15 Coffee Break>

- ◇ 4WD Dynamometer (WLTP-24-09e\_4WD) (11:20-12:20)

[Conclusions]

- **WLTP IWG requested OICA to discuss on this as a first step.**
- **Depending on the progress, this will be added in agenda for January 2019 WLTP IWG.**

[Discussions]

- I. Riemersma (Consultant) explained WLTP-24-09e\_4WD, a status report for 4WD Dynamometer TF.

- C. Lueginger (BMW) explained WLTP-24-09e\_4WD\_Appendix01, ACEA proposal on the vehicle restrain method for 4WD dynamometer testing and the comment to the proposal from Japan on Automatic Load Regulator (ALR) quick check after the test.
- N. Ichikawa (TS, Japan) mentioned that Japan request ALR quick check after the test to make sure there is no vertical force and it should be checked after each test. A. Marotta (EC) asked whether it can be demonstrated that a restraining system 'cannot' apply a vertical force (not 'should not'). If it cannot apply a vertical force, then why is an ALR check needed. C. Lueginger (BMW) also mentioned that there will be no vertical force if the vehicle is mounted correctly. N. Ichikawa (TS, Japan) said it is impossible to prove if it is mounted correctly without ALR quick check after the test.
- H. A. Nakhawa (ARAI, India) supported the proposal from Japan since this is only for 4WD vehicles and also India does coastdown on CH-DY right after Type 1 test. He mentioned it only takes 10 to 15 minutes. I. Riemersma (Consultant) mentioned with ALR quick check after the test, it cannot be used as preconditioning for following test. B. Coleman (VW Group) said that the additional 10 to 15 minutes after the test would mean requiring 2 additional labs.
- R. Cuelenaere (Chair, TNO) requested some discussions within industry, and with that result, CPs have the decision. Depending on the progress, this will be added in agenda for January 2019 WLTP IWG.

✧ CFD (WLTP-24-10e\_CFD) (12:20-12:30)

- M. Morimoto (Japan) explained WLTP-24-10e\_CFD, the status of CFD sub-working group. She requested involvement of CP and technical services/authorities. C. Vallade (UTAC) replied that she will join at the next meeting.

<12:30 – 13:50 Lunch Break>

7. **Subgroup and Taskforce Report\_Part2 <IS & D>** (13:50-16:25)

✧ COP (WLTP-24-12e\_COP,  
WLTP-24-12e\_Appendix01\_JPN COP) (13:50-16:05)

[Conclusions]

- **WLTP IWG confirmed to discuss a harmonised COP test procedure for UNR WLTP.**

[Discussions]

- I. Riemersma (Consultant) explained WLTP-24-12e\_COP. (Not uploaded to UN ECE website or provided to WLTP IWG)
- B. Coleman (VW Group) commented that he hopes to correct errors in the European COP procedure during WLTP COP discussion. A. Marotta (EC) replied

that they are planning to review the European COP procedure and statistics for pass/fail decisions.

- N. Ichikawa (TS, Japan) presented WLTP-24-12e\_Appendix01\_JPN COP, the COP procedure planned in Japan. S. Miyazaki (MLIT, Japan) said Japan plans to implement it when UNR WLTP comes in.
- R. Gardner (Consultant) mentioned Level 1a for EU-COP and Level 1b for J-COP. Level 2 for the harmonised procedure. However, there is only a limited chance to discuss the harmonised COP procedure. C. Lueginger (BMW) mentioned that there shouldn't be three different types of COP in force. A harmonised procedure is needed.
- H. A. Nakhawa (ARAI, India) requested to make separate GTR since in India, it is done by authority. However, R. Gardner (Consultant) mentioned that GRPE decided that COP and durability should be 'optional' annexes to GTR 15 and not separate GTRs. .
- From the discussion, A. Marotta (EC) proposed to have UNR WLTP without COP and Durability test procedure for now. This is because transposition to UNR is planned to create informal document within 2018 and send working document to the May 2019 GRPE. However, R. Gardner (Consultant) mentioned under 1958 Agreement, COP is required. B. Coleman (VW Group) mentioned that a UNR WLTP without durability would cause issues for IWVTA.

<15:00 – 15:35 Coffee Break>

- R. Cuelenaere (Chair, TNO) mentioned without harmonised Level 2 COP in UNR means, each region needs to accept COP with other regions. Therefore, he proposed to IWG to contribute to harmonised COP. A. Marotta (EC) and S. Miyazaki (MLIT, Japan) supported his proposal. H. A. Nakhawa (ARAI, India) showed concern without room for administrative flexibility. It needs to be made clear who would undertake the COP, the manufacturer or the Technical Service.
  - I. Riemersma (Consultant) asked anyone who want to join the meeting to send him an e-mail. He will present the status report to January 2019 WLTP IWG.
- ✧ Durability (WLTP-24-11e\_Durability – NO DOCUMENT) (16:05-16:25)
- A. Marotta (EC) explained status of Durability TF orally. In Durability TF, he asked experts, especially from JRC, LAT and AECC, to analyse current UNR83 procedure. Based on the result, in his opinion, the best procedure seemed to be the whole vehicle deterioration. Allowing the option for manufacturers to develop their own accelerated bench ageing test can be also a part of solution. However, currently nothing is agreed in TF. He also mentioned that he feels it is difficult to accept to transpose current UNR 83 procedure to WLTP durability procedure, since the emission scandal which happened a few years ago.
  - N. Ichikawa (TS, Japan) mentioned that Japan understands the situation in EC. Since EC's proposal included very new element, Japan needs time to consider.

- A. Marotta (EC) said he will bring a revision of the durability proposal by the end of September.

## 8. Transposition to UNR <IS & D> (16:25-17:30)

✧ Status report by R. Gardner (WLTP-24-03e\_UNR)

- R. Gardner (Consultant) explained WLTP-24-03e\_UNR, the status report to transposition to UNR. He explained that key aspect for UNR83 is that UNR83-08 will not be the UNR which can stand by itself. He asked Japan if they can accept the multi-stage type approval, SCR treatment, and ATCT written in EU-WLTP to be included in UNR WLTP. A. Marotta (EC) said that EC want EU-WLTP special requirements, such as ATCT, speed correction, and On-board fuel consumption monitoring (OBFCEM) to UNR WLTP, linked to the 4-phase WLTC, to have more accurate regulation for European requirements.
- B. Coleman (VW Group) mentioned that since EU-WLTP interpolation family included ATCT family, which is different from interpolation family definition in GTR 15, this will cause problems for transposition.

\*\*\*\*\* DAY\_4 (21<sup>st</sup> September) \*\*\*\*\*

## 9. Drafting for Working Documents <RC> (9:25-11:45)

✧ Drafting Report by S. Dubuc (WLTP-24-04e\_Drafting report)

[Conclusions]

- **See WLTP-24-04e\_text to be reflected after 24th IWG meeting.pptx and ECE-TRANS-WP29-GRPE-2019-02e\_TrackChanges.docx for the final result of discussion.**

[Discussions]

- S. Dubuc (Consultant) reviewed WLTP-24-04e\_Drafting report to confirm which topics are closed or not.

✧ Working Documents to be submitted to 78<sup>th</sup> GRPE

(WLTP-24-04e\_Appendix01\_GTR#15,

WLTP-24-04e\_Appendix02\_GTR#19)

✧ Latest GTR can be seen @

<https://wiki.unece.org/display/trans/Latest+GTR+15>

**10. Meeting schedule <IS> (11:45-12:00)**

- ✧ Schedule of upcoming task force meetings
  - <https://wiki.unece.org/display/trans/WLTP+2018+calendar>
  - No New Issues TF meeting will be held.
- ✧ 25<sup>th</sup> IWG meeting (7<sup>th</sup> and 8<sup>th</sup> AM January, 2019 @ Geneva)
  - Subgroup EV meeting is expected during the morning of 9<sup>th</sup> January. After the meeting, R. Cuelenaere (Chair, TNO) announced that it will be an hour meeting in the morning of 8<sup>th</sup> January.
- ✧ 26<sup>th</sup> IWG meeting (Monday 15<sup>th</sup> to Thursday 18<sup>th</sup> April), Zagreb, Croatia.
- ✧ 27<sup>th</sup> IWG meeting (in the week of 21<sup>st</sup> to 23<sup>rd</sup> May, 2019 @ Geneva)
- ✧ 28<sup>th</sup> Invitation welcome, partner from outside EU?
- ✧ 29<sup>th</sup> January 2020, Geneva
- ✧ 30<sup>th</sup> Interest is expressed for Spring 2020 meeting

**11. AoB <IS or D or RC>**

No topics were raised.